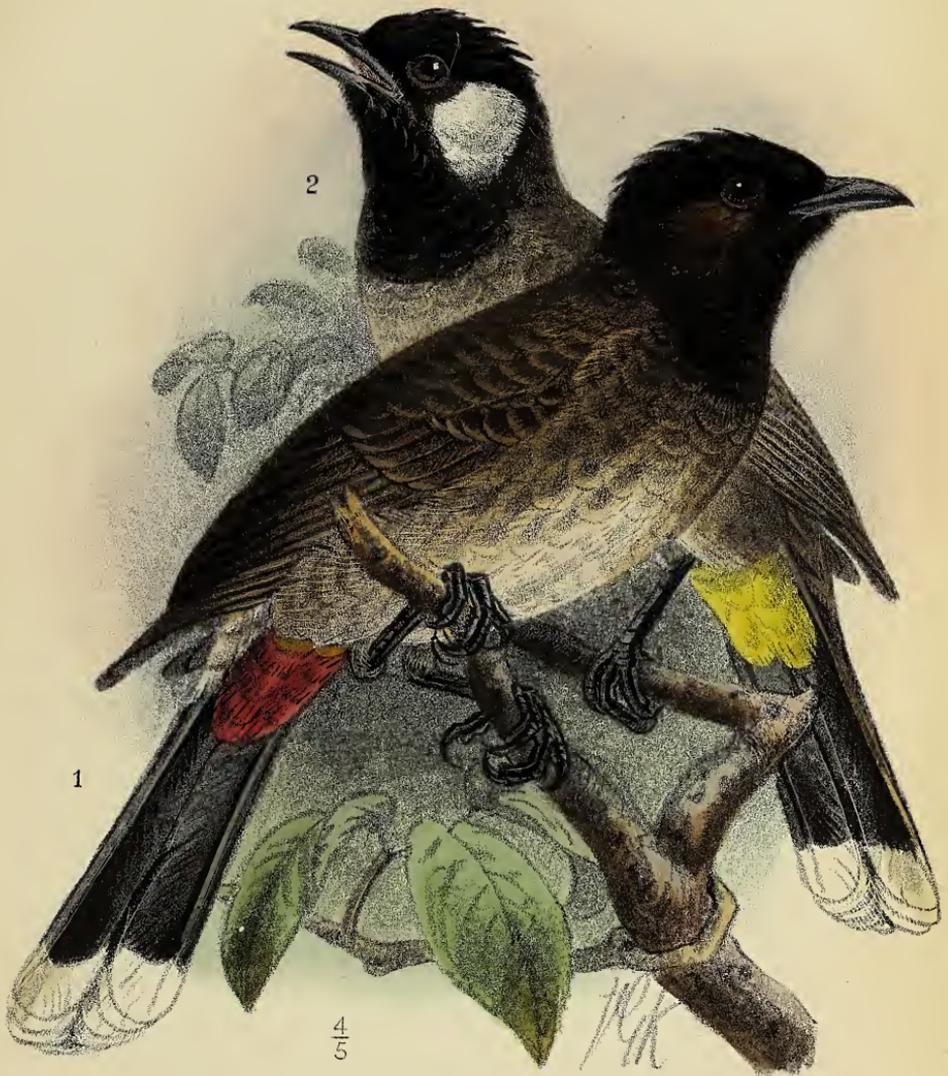


fertile cross. The series collected by my two friends certainly points to hybridizing, the ear-coverts when sullied with brown being accompanied by a browner and longer crest (*M. leucogenys*), while pure white ear-coverts accompany a shorter and blacker crest (*M. leucotis*).

Molpastes magrathi (Pl. V.) has deep orange-coloured under tail-coverts, sometimes slightly inclining to crimson. The chest varies from uniform ashy grey to grey with more or less black mottling, the feathers being black in the centre, with ashy margins. I agree with Lieut. Whitehead that, on the present evidence, it is impossible to pronounce these birds to be hybrids. They could only be hybrids between *M. leucotis* and *M. intermedius*, but the latter does not occur in Bannu.

XIII.—*Notes on some Birds collected during a Cruise in the Caribbean Sea.* By PERCY R. LOWE, M.B.O.U.

THE following paper is chiefly based on a collection of birds which I made during the winter of 1907–1908, while cruising with Sir Frederic Johnstone in his yacht 'Zenaïda.' It includes, among others, notes on the species met with in some little-known islands off the north coast of Venezuela. Thanks also to Sir Frederic Johnstone, I have previously been able to describe the birds of Margarita and Blanquilla Islands, while some years ago Dr. Hartert described the birds of Curaçao, Bonaire, and Aruba ('Ibis,' 1893, p. 318); so that my present notes on the birds collected and seen in the island groups of Los Testigos and Los Hermanos make another step towards completing the account of the birds of this interesting chain of islands—the true Leeward Islands. In an endeavour to make them still more complete, I have added a list of the birds which I met with in the Cariaco Peninsula; for not only must the geological formation of this interesting strip of land be referred to the same primitive period as is represented in Margarita, Blanquilla,



1

2

4/5

West, Newman imp.

1. MOLPASTES INTERMEDIUS.
2. MOLPASTES LEUCOTIS.

Los Hermanos, and Los Testigos Islands (and, so far as I am aware, in the Curaçao Group also), but the flora and avifauna present the same general characteristics and differ in an appreciable way from those of the mainland as a whole.

To one steaming up the Gulf of Cariaco nothing indeed could be much more striking than the strange contrast which is exhibited on the one hand by the Peninsula, with its arid, desolate, and schistose rocks only scantily clothed with cactus and mimosa scrub, and on the other by range after range of tall mountains, luxuriantly forest-clad, which mark the Secondary limestone formations of the mainland.

We have, then, off the coast of Venezuela a chain of islands which, together with the Peninsula of Cariaco, represent the remains of what in all probability in a remote Primary age was one continuous and large tract of land, and exhibit an avifauna which in general can be distinguished from that of the mainland. In an old French atlas this chain of islands is designated by the name "Les Isles sous le vent." They are, indeed, the real Leeward Islands of the old discoverers, and I am at a loss to account for the reason that the name has been applied to another and more northern group.

My paper also includes notes on the birds of Swan Island and the Grand Cayman, both of which lie in the western end of the Caribbean Sea. I have added a few notes on some of the species met with in the islands of St. Vincent, Grenada, and Barbados. We have previously visited these islands on one or two occasions, but the birds which inhabit them are in general so well known that I confine myself to a few remarks which may possibly prove of interest.

I take the islands in the order in which we visited them.

I once more have to express my great indebtedness to Dr. Bowdler Sharpe, who has allowed me to work out my collection at the British Museum and given me much kind assistance.

BARBADOS.

Leaving Monte Carlo on Nov. 11th, 1907, we arrived at Barbados on Dec. 4th and left that island on Dec. 12th. During this and a previous visit I obtained specimens of all the resident birds on the island except the *Vireo*. They are so well known that I merely add a note or two on one or two forms which seem to call for remark.

ZENAÏDA AURITA Temm. & Knip.

This very handsome Dove is fairly generally distributed over the island, but is nowhere very abundant except in the hilly "Scotland" district. I shot a few examples, and it seems to be distinguishable by well-marked differences from other forms of this genus found in the Lesser Antilles.

CHAMÆPELIA ANTILLARUM.

Chamæpeelia antillarum Lowe, Bull. B. O. C. vol. xxi. p. 109 (1908).

This Ground-Dove, which is also found on the islands of St. Vincent and Grenada, has the base of the bill olive-brown, with no trace of either yellow, orange, or crimson, except that in some specimens, in the perfectly fresh state, there is to be seen the thinnest possible line of yellow along the upper edge of the mandible. Its nearest ally is *C. bermudiana* Bangs; but the bill of that bird is almost uniformly black, while the edges of the mandibles have a thin line of crimson. *C. antillarum* is also larger and much richer in coloration than examples from Bermuda.

I have twenty specimens in my collection from the three islands. How much further north along the Antillean chain this form extends, I have had no opportunity of discovering.

ELENEIA MARTINICA BARBADENSIS.

Elainea barbadensis Cory, Auk, v. 1888, p. 47.

Elenia martinica martinica Ridgw. Birds North and Middle Amer. pt. iv. p. 426.

Elainea martinica Nicoll, Ibis, 1904, pp. 558.

Elainea martinica Berlepsch, Proc. Fourth Intern. Orn. Congress, 1907, p. 394.

I have three specimens of this Tyrant which I obtained at Barbados that undoubtedly differ from examples of true *E. martinica*, and having also examined two birds taken by Mr. Nicoll on the same island, one of which exactly agrees with mine, while the other is lighter in coloration and is apparently younger, I am unable to agree with him in thinking that this form should be united to that found in St. Vincent, St. Lucia, Martinique, Dominica, and Guadeloupe (true *E. martinica*). The four apparently *fully* adult birds from Barbados are both larger and darker in coloration above and below than examples from these islands, a large series of which I have examined, and my only hesitation has been whether they best deserve specific or subspecific rank.

TYRANNUS DOMINICENSIS VORAX.

Tyrannus vorax Vieillot, Nouv. Dict. d'Hist. Nat. xxxv. 1819, p. 90.

Tyrannus dominicensis vorax Ridgw. Birds North and Middle Amer. pt. iv. p. 710.

Tyrannus rostratus Sclater, Ibis, 1864, p. 87.

Three males and one female.

The bills of these specimens from Barbados, as well as of three others which I shot in Grenada, are somewhat larger than in typical specimens of *T. dominicensis* (Gmelin), and agree in other respects with descriptions of this form, which is found in the more southern Antilles. The difference in size between the two birds is, however, slight, and the bills also vary a good deal in length in examples from the same island; yet no doubt if a sufficiently large series were examined the distinction between the two forms would be more obvious.

EUETHIA BICOLOR MARCHII.

Euethia bicolor marchii (Baird), Proc. Ac. Nat. Sci. Philad. 1863, p. 297; Ridgw. Birds North and Middle Amer. pt. i. p. 541.

Euethia bicolor Nicoll, Ibis, 1904, p. 557.

I shot a series of fourteen male examples of this Finch,

which I consider to be undoubtedly a good and very constant subspecies and similar to the bird found in Jamaica, the black of the under parts in adult birds ending abruptly on the lower part of the chest or in the middle of the breast.

Six males which I obtained on the islands of Grenada and St. Vincent agree exactly with those from Barbados and must be undoubtedly referred to the same subspecies.

ISLAND OF ST. VINCENT.

Leaving Barbados on Dec. 12th, we arrived here the same day and stayed until Dec. 19th.

CHRYSOTIS GULDINGI (Vig.).

This magnificent Parrot still occurs in sufficient numbers on the island to make its preservation a matter of certainty if proper care is exercised. Several large flocks are known to exist, and I was informed by the Revenue Officer at Chateau-Belair that they regularly came down to his garden among the hills to feed. The effect of the recent eruption must have been moderate in regard to its extinction. Strangely enough, although a large number of birds are strictly preserved on the island, this species remains unprotected.

MYIADESTES SIBILANS LAW. "Souffrière Bird."

This bird was also reported to have been wiped out by the eruption. I was told, however, that for days after that calamity it was both seen and heard in numbers round Chateau-Belair and that it then gradually disappeared, having apparently gone back to the mountains. This species is not nearly so rare, I believe, as some would have us suppose. It lives in the "high woods" and is very retiring and "skulking" in its habits, so, as no one dreams of climbing to the densely-wooded mountain-tops without some very good reason, very little is known about it.

In times gone by the Negroes, or rather the Caribs, had a superstitious dread of the bird, and did not dream of killing it. It used to be very common in and around the Souffrière and there never could have been such difficulty in obtaining specimens as one might gather from Mr. Ober's accounts.

CÆREBA SACCHARINA (Lawr.).

This bird seems to be in much greater danger of extinction than either of the previous two forms. I have only seen one specimen on the island of St. Vincent, where it appears to have been entirely ousted by *C. atrata* (Lawr.), a peculiar black form of this genus. It is becoming very rare, too, on Grenada. On our last visit to that island we did not see a single example, while on former occasions I obtained four. Mr. Austin Clark states, however, that it is common on the Grenadines.

Mr. Ridgway has suggested (Proc. U.S. Nat. Mus. vol. viii. 1885, p. 28) that the two black forms of this genus found in St. Vincent and Grenada may prove to be merely phases of the normally coloured birds (*C. saccharina*) inhabiting the same island; but there does not seem to be very much evidence in support of his contention.

I have lately found another black form well established on the islands of Los Testigos, Venezuela (see below), where *C. saccharina* is conspicuous by its absence. If this black form is also merely a melanistic phase, as Mr. Ridgway would have it, it must be a phase of *C. luteola*; but it is strange that we do not find black phases on the mainland or in any other of the Antillean or Caribbean islands. *C. luteola* is the form which occurs on Margarita.

COTILE RIPARIA (Linn.).

A number of these Bank-Swallows were "hawking" about in pursuit of insects on the top of the Souffrière, some little way below the crater, but a long way above the zone of present vegetation. Unfortunately, in my ascent of the volcano I had left my collecting-gun behind where the vegetation ceased, and so could not procure a specimen for identification. The birds were flying very low, skimming backwards and forwards over the ground and passing continually within a few feet of us, so that I was able to get a perfectly good view of them. My notes, taken at the time, state that they "were of a light sandy colour above, with lighter rumps and white under

parts." So far as I am aware, this bird has not been previously recorded from the Lesser Antilles.

CHÆTURA BRACHYURA (Jard.).

On the strength of Mr. Cory's remarks ('Birds of West Indies,' 1889, p. 295), I have referred my only specimen (a female), which I procured from a large flock near Kingstown, to this species; but having compared it with others in the British Museum, I am unable to detect any difference between it and specimens of *C. poliura* Temm.

EUETHIA BICOLOR MARCHII (Baird).

The St. Vincent Finch of this genus seems undoubtedly to be referable to this subspecies and to agree in every respect with examples from Barbados and Grenada. Having now obtained for myself a series of birds on the spot, I must correct my remarks in 'The Ibis' (1907, p. 122) with regard to the St. Vincent form, which were made on the strength of an examination of an insufficient number of specimens from that island in the British Museum collection. This bird was breeding in December.

URUBITINGA ANTHRACINA (Licht.).

I saw a pair of these black Hawks near the Botanical Gardens at Kingstown, and I was informed at Chateau-Belair that they are often seen there.

ANOUS STOLIDUS (Linn.).

Breeds in large quantities on the shore to the north of Chateau-Belair.

ISLAND OF GRENADA.

We arrived at this island on Dec. 19th, and after a stay of a week left for Tobago.

ELENIA FLAVOGASTER (GRENADENSIS?).

Pipra flavogaster Thunberg, Mém. Acad. Imp. St. Pétersb. viii. 1822, p. 429; Lönnberg, Ibis, 1903, pp. 241, 242.

Elenia flavogaster subpagana Berlepsch, Proc. Fourth Intern. Ornith. Congress, 1907, p. 384.

Elenia subpagana Selater & Salvin, Ibis, 1860, p. 36.

Elania martinica subpagana Ridgw. Birds of North and Middle Amer. pt. iv. p. 429.

Elainia pagana Nicoll, Ibis, 1904, p. 566.

Two specimens which I obtained on Grenada and a large series which I have examined in the British Museum collection are undoubtedly distinct from birds found in St. Vincent, St. Lucia, Dominica, Martinique, and Guadeloupe (typical *E. martinica*). They very closely resemble, if not actually identical with, the form found on the neighbouring mainland (Venezuela and Colombia), Trinidad and Tobago. If, therefore, we follow Count Berlepsch's recent proposal, and accept Thunberg's original name *flavogaster* for the mainland bird, instead of *martinica* (from which purely Antillean group both the mainland and Grenada bird are quite distinct), then this form becomes *E. flavogaster*.

If, on the other hand, the Grenada bird is recognised as differing from the mainland form and as being worthy of subspecific rank, another name than *subpagana* must be found for it; for this name is referable to a race which ranges further to the west through Central America, from South Mexico to Panama, and it is hardly possible that those from Grenada and the Grenadines can be identical with it.

We should thus have *E. flavogaster* representing the typical bird from Colombia, Venezuela, and Brazil, while *E. flavogaster subpagana* would represent the more western race; and if the Grenada and Grenadine bird is to be distinguished by a name, I would suggest *E. flavogaster grenadensis*. By this arrangement the name *martinica* is reserved for the purely Antillean races, which are easily distinguished from the mainland forms.

⁸MYIARCHUS OBERI NUGATOR.

Myiarchus oberi nugator Riley, Smithson. Misc. Coll. 1904, p. 275.

Specimens of this Tyrant which I obtained on Grenada and from St. Vincent, and others which I have examined in the British Museum collection, can be distinguished from

examples found in Dominica and St. Lucia—*M. oberi* Lawr. They are also easily distinguished, both in size (larger) and coloration, from examples of *M. tyrannulus* Müller.

MOLOTHRUS ATRONITENS (Cabanis).

At the southern end of Grenada this beautiful glossy Cow-bird is rapidly establishing itself. I saw numbers flying about with flocks of *Quiscalus luminosus*, and shot four specimens. The bird has a most charming song—a series of low musical flute-like notes of extraordinary sweetness. I listened to one for some time as it sang *on the ground* beneath a mangrove bush.

LOS TESTIGOS ISLANDS.

Leaving Trinidad on the afternoon of Dec. 31st, we arrived in the early morning of Jan. 1st, 1908, at this group of little-known islands and after some trouble found a very snug and safe anchorage in an almost land-locked position under the lee of the largest of them, which is called Testigo Grande (Great Witness) or Goat Island.

These islands, six or seven in number, lie off the north coast of Venezuela. They are forty-three miles from the mainland, eighty-five miles from Grenada, and fifty-one miles north-east (roughly) of Margarita.

Testigo Grande is of greater extent than is given in the sailing directions. We put its length at from three to three and a half miles, but its shape is very irregular, and in the short time at our disposal we had no opportunity of taking more accurate measurements. Its greatest height is (roughly) 400 to 500 feet.

Scattered round it are other smaller islands or rocky fallarones. The group is periodically inhabited by fishermen, who go there from January to April, but we were informed that one family now lived there all the year.

Testigo Grande is thickly wooded and covered with very varied vegetation, in spite of the waterless condition in which we found it. Many of the trees attain quite respectable proportions, and there seemed to me to be an unusual variety. Besides many that were unknown to me, I noticed Logwood,

West-Indian "Birch," Guaiacum, Acacia, Tamarind, and Manchineel. Various kinds of Cactus grow on the lower slopes and on the smaller islets, and there is a great profusion of flowering bushes and even flowering plants. Wild cotton grows in abundance. Except for the few miserable huts erected by the fishermen, and a modest plot or so of cultivated ground in their immediate vicinity, these islands remain as they have existed through the ages. Geologically they consist of masses of a coarse-grained granite (hornblende), enormous fragments of which, much weathered, may be seen here and there amid the surrounding vegetation. On the weather side of one of the smaller islets this granite is overlaid by a layer of shaly rock. The general colour of the soil and exposed rocks in the lower parts of the island is deep ferruginous. I was much struck by the number of butterflies that we saw. Progress anywhere on the large island is laborious, owing to the thick bush and the excessive heat. I have no doubt that other land-birds besides those observed would be met with if a more extended search was made for them; and sea-birds probably nest here also, especially on the north side of the large island, where the shore is sandy. I have met with the Sooty Tern in great numbers in the near neighbourhood of these islands, but saw nothing of it on any of the fallarones.

Besides the few birds mentioned below as having been seen or shot, one or two unidentified Owls were seen, as well as a Buzzard (*Buteo latissimus*?) and a few Pelicans (*Pelecanus fuscus*). I have no doubt that *Margarops fuscatus* or some other Thrush would be found towards the higher levels of the largest of the islands, as it exists on the Los Hermanos group; but we had no time in the two days at our disposal to cover all the ground, having unfortunately lost much valuable time in visiting some of the smaller outlying islands.

COLUMBA CORENSIS Gmel.

We saw several Pigeons on Goat Island which were no doubt examples either of this species or of *C. leucocephala*, but we were unable to get near enough to shoot any.

CHAMÆPELIA PERPALLIDA.

Columbigallina passerina perpallida Hartert, *Ibis*, 1903, p. 304.

Three males and one female.

A fairly common bird wherever the scrub is scanty and the ground suitable. I shot other specimens, but had no time to prepare more skins. The colour of the bill at the base varies in both sexes from orange to yellow, according to age.

The under tail-coverts have very broad margins of white with only very narrow wedge-shaped centres of dusky; otherwise I do not think specimens of the Los Testigos Ground-Dove quite so pale as those I have obtained on other islands.

LEPTOPTILA sp.?

I shot an example of a Dove of this genus on one of the smaller islands, but unfortunately lost it in some thick cactus-scrub; I have no doubt, however, that it belonged to the species *verreauxi*, which I found very common on Margarita Island.

HÆMATOPUS PALLIATUS Temm.

One female.

I saw a pair of Oyster-catchers on the rocks at the south-east end of Testigo Grande, and shot one of them. Another bird, at the western end of Margarita Island, was so tame that it ran about on the beach within twenty yards of some fishermen's huts.

ARENARIA INTERPRES (Linn.).

One female.

Several flocks of Turnstones were seen along the western side of Testigo Grande, where the shore becomes more sandy and there is abundance of shell-fish. It is remarkable how admirably the colour of the upper parts matches with the rocks on which the birds are accustomed to settle. They were exceedingly tame, and several times when I approached within three or four yards of a small band they only flew to an adjacent boulder and immediately

settled down close to the rock. In the act of settling their white under parts became for a moment visible, and then instantly the birds remained motionless, some of them crouching close to the rock, and as if by magic seeming to almost disappear under my eyes. Several times, after intentionally turning away, it was difficult to locate the birds on looking round again, although they were only twenty feet or less away.

LIMONITES MINUTILLA (Vieill.).

Limonites minutilla (Vieill.); Sharpe, Cat. B. Brit. Mus. xxiv. p. 548 (1896).

Common on the shores. I shot one example for identification.

ARDEA HERODIAS, Linn.

Ardea herodias Sharpe, Cat. B. Brit. Mus. xxvi. p. 80 (1898).

I saw several of these large blue Herons fishing on the islands, but did not shoot any. This bird seems to prefer rock-strewn shores to the banks of rivers and streams, and will fly enormous distances in order to feed on the abundance of shell-fish and other food which it finds there. In the Bermudas there is a regular annual migration from the mainland, and I have seen many individuals along the shores there. This entails a flight of close on six hundred miles across an open sea, without a landmark to guide the birds. The migration occurs in spring, and I was told by a naturalist on the island that later in the year they all disappear.

SULA SULA (Linn.).

This Gannet was present on the smaller islands of the group in large numbers, and was breeding. It invariably lays its eggs on the ground, and makes a more elaborate nest than *Sula cyanops*, lining a slight depression in the soil among the rocks with roots and pliant twigs. Either one or two eggs are laid. I have photographs of these birds on their nests taken within four feet of them.

On the second morning of our stay at the island we saw a flock of quite a thousand, flying in a dense and compact mass. They were evidently following a shoal of fish, which occasionally rose to the surface, and as they watched the fish below their movements appeared to be actuated by a single will or volition, so that they dipped or rose or inclined to the right or left as if at the word of command of a single individual. Through all their movements they kept the closest order, and when from time to time they dived the whole flock fell plumb to the water as one bird, the sea being lashed and churned to white foam over a very circumscribed area in a most remarkable manner.

A curious thing which we noticed was that occasionally the whole compact flock made a sort of feint at the water, and then with one accord turned again to regain their former level of flight, as if the shoal of fish had been sighted but the birds realised in the middle of their dive that their prey were too deep.

I have watched many thousands of Gannets of different species fishing, but have never seen them hunt together in this way before. As a rule, where numbers are fishing together, each bird acts independently; but this flock, which consisted entirely, so far as I could make out, of examples of *Sula sula*, acted in a unison as perfect as that exhibited by a flock of Starlings.

SULA PISCATOR (Linn.).

This Gannet was also breeding on the smaller islands of the group. It was not present in such numbers as *S. sula*. Examples of all three stages of plumage were noticed. Most of the nests belonged to individuals in the white-tailed and brown-bodied stage of plumage. Birds in the wholly brown stage do not breed, being apparently too young. Birds in the fully adult white plumage are, in comparison with birds in the middle stage of plumage, quite rare. This species invariably makes its nest in low trees, either mangrove or sea-grape.

FREGATA AQUILA (Linn.).

These birds were beginning to nest and were present in hundreds. I did not see a single example with a red gular sac during the two days we were at the Testigos, and I am inclined to think that this is only acquired by very old males. One of our officers told me that he had seen *one*. By far the greater number of birds hovering over the islands had the head black and the throat and thorax white, with a pectoral band of brownish not meeting in the middle line—that is to say, they were either young males or young females; a lesser number had the head and neck white (fully adult females).

CERYLE ALCYON (Linn.).

I saw several examples of this Kingfisher along the shores of the island. In my experience this bird seems to prefer salt to fresh water. There was no water in any of the watercourses on Testigo Grande when we visited the group. I have found this bird on Blanquilla Island, which is seventy miles from the mainland, and contains no streams, on Swan Island (ninety-eight miles from the coast), which is another streamless island, and again on the Cayman Islands. So far as my recollection goes, I have not met with it as a rule very far from the sea when exploring rivers, and its favourite resorts are the mangrove bushes which border their mouths, where the water is brackish or tidal.

CHRYSOLAMPIS MOSCHITUS (Linn.).

Chrysolampis moschitus Salvin, Cat. B. Brit. Mus. xvi. p. 113 (1892); Sharpe, Hand-l. ii. p. 119 (1900).

Three males and two females.

I only found this pretty little Humming-bird on one of the smaller islands of the group. In April 1906 I found it very common on Blanquilla Island, but on two subsequent visits, one in January and the other in February, I failed to observe a single specimen. There can, therefore, be little doubt that this diminutive bird annually migrates over ninety-five miles of open sea, for Blanquilla is so small and the vegetation on which the bird feeds so uniformly

distributed, that it seems impossible that it could have escaped our deliberate search for it. It is not found on Margarita.

MYIARCHUS TYRANNULUS (Müll.).

Myiarchus tyrannulus Selater, Cat. B. Brit. Mus. xiv. p. 251 (1888).

One male and four females.

These birds agree with two specimens of *M. tyrannulus* which I obtained on Margarita in 1906 rather than with five specimens obtained on Blanquilla Island, which agree with Dr. Hartert's description of his *M. brevipennis*. The plumage both above and below is darker and richer than in the latter species; but the difference in the wing measurements is very slight—Los Testigos specimens averaging 90·8 mm., while specimens from Blanquilla average 89·8 mm.

The exposed culmens of

Los Testigos specimens vary from	17 mm.	to	20·5 mm.
Blanquilla	„	„	16·5 „ 18·5 „
Curaçao	„	„	17 „ 20 „

Compared with specimens of *Myiarchus oberi nugator* which I shot at St. Vincent and Grenada, all the measurements of my Testigos birds are smaller, and the general coloration not so rich.

DENDRÆCA RUFICAPILLA RUFOPILEATA.

Dendræca ruficapilla rufopileata Ridgw. Proc. U.S. Nat. Mus. vii. 1884, p. 173.

Two males and one female.

Fairly plentiful but in poor plumage. I have referred my specimens to *D. ruficapilla rufopileata* rather than to typical *D. ruficapilla* or *D. r. capitalis*; but with such scanty material and specimens in indifferent plumage, I hesitate to express any decided opinion. The Blanquilla bird must undoubtedly be referred to this subspecies. It occurs merely as a straggler on Margarita Island. I only saw the bird on two small islets lying close to Testigo Grande.

MIMUS GILVUS ROSTRATUS.

Mimus gilvus rostratus Ridgway, Proc. U.S. Nat. Mus. 1884, p. 173 (Curaçao); Berl. J.f. O. 1892, p. 74 (Curaçao); Hartert, Ibis, 1893, p. 294.

Five males and two females.

This was one of the commonest birds met with, and was present in large numbers. A small group of mangrove-trees was, towards sunset on the day of our arrival, simply swarming with them. I have noticed them collecting together at dusk in a similar way on Margarita Island at the same season of the year. The plumage was much worn, and some individuals were beginning to moult. These birds are very numerous on Blanquilla Island, where, at the beginning of February 1907, they were in full song and commencing to nest. We shot one specimen on Testigo Grande which was pure white (irides normal).

There is no doubt that the bills of these birds, and of examples from Curaçao, Blanquilla, and possibly Margarita Island, tend to be larger than in typical *Mimus gilvus*. I have accordingly referred them to Mr. Ridgway's *M. gilvus rostratus*. Male birds are always larger than females.

The average measurements of the exposed culmen in birds from

Los Testigos	=	19.2 mm.	
Blanquilla Isl.	„	20	„
Margarita Isl.	„	19	„
Curaçao	„	23	} (Ridgway, Birds of N. & Mid. Amer.)
Grenada	„	17.5	

Mr. Ridgway ('Birds of North and Middle America,' part iv. p. 236) describes this subspecies as "similar to *M. g. gilvus* (West Indian specimens), but slightly larger, with bill much larger, and white of chest less tinged with grey." I believe, however, that the amount of grey on the chest is indicative of age, for I have specimens which I shot on Curaçao which are distinctly more grey than those from Grenada and St. Vincent, and the same remark applies to

my specimens from Blanquilla. My Testigos birds are, however, paler below than those I have obtained in Grenada. Two examples in my collection, one shot by me on Margarita and the other in Tobago, seem to correspond to *M. gilvus columbianus*. The wings and tails in these birds are noticeably much longer than in those under discussion. The Tobago Mocking-bird has been distinguished as *M. gilvus tobagensis*.

CÆREBA LAURÆ.

Cæreba lauræ Lowe, Bull. B. O. C. vol. xxi. p. 108 (1908).

Four males and five females.

Soon after landing on Testigo Grande I was astonished to meet with a black form of this genus similar to *Cæreba atrata* and *C. wellsi* from St. Vincent and Grenada; and I quickly became aware that it was quite common and well established there, for we soon shot as many specimens as we required, and its nests were everywhere in evidence. Previous to this discovery, an entirely black form of this genus had only been known from the two above-mentioned islands, so that the discovery of one here was of some interest. I have ventured to separate the Testigos bird chiefly on account of the fact that the bright crimson and tumid rictus which is so conspicuous an object in the St. Vincent and Grenada birds, is in this form entirely absent. The bill is also less curved. The fact that the tumid rictus is absent in this form cannot, I think, be put down to a change at the breeding-season, for in some of the examples which I shot the sexual organs were enlarged and the birds were evidently soon about to breed, although I did not find any eggs in several nests I examined. A fortnight before I had found the black *Cæreba* in St. Vincent and Grenada busily engaged in breeding-operations, and I found both young and eggs on Grenada. The brightly coloured rictus was then a conspicuous feature. The nest of the Testigos bird differs markedly in appearance from that found in the other two islands, a large amount of vegetable down being interwoven into the outside structure.

The average lengths of the exposed culmen of male specimens shot by me are as follows :—

Four males from Los Testigos . . .	14·5 mm.
Five males from St. Vincent . . .	14 ,,
Four males from Grenada . . .	13 ,,

The average length of wings = 62 mm., and of the tarsi = 18·5 mm. Females are rather smaller.

The measurements given by Mr. Ridgway ('Birds of North and Middle America,' part ii. p. 423) of the only specimen in the Smithsonian Institute of *Cœreba atrata* seem to be much larger than is usually the case.

HOLOQUISCALUS LUMINOSUS.

Quiscalus luminosus Lawr. Ann. N.Y. Acad. Sci., July 1, 1878, p. 162.

Five males and one female.

These specimens agree in every respect with those which I obtained in Grenada. It is to be noted that this bird is not found on Margarita Island, where its place is taken by *Quiscalus insularis*. It is well represented on the island.

CARIACO PENINSULA.

We left Los Testigos in the early morning of Jan. 3rd, 1908, and after a short stay at Cumana for pratique, proceeded up the Gulf of Cariaco and arrived at the Laguna del Obispo at dusk. This extraordinary inlet of the sea is situated about halfway up the southern rock-bound coast of the Peninsula. The entrance to it is very narrow and easily missed. Once inside, the voyager finds himself on an irregular sheet of deep still water of the deepest blue, studded here and there with small islets. Surrounding it on all sides, in the fashion of a Scotch loch, are high hills. They present a series of colours which vary from rich deep red to deep yellow-ochre. In the distance the iron-tinted soil seems in places to be frosted with old silver, an effect produced by the patches of silvery-toned cactus-scrub. Along the shores, stretches of bright golden sand alternate with the deep green of the mangrove-belts. Here and there on the lower slopes patches of acacia-trees

and the candelabra-like inflorescence of the agaves relieve the more sober tones of the cactus-scrub. The Cariaco Peninsula is about twenty-eight miles long by a few wide. It is everywhere of an arid and hilly nature. The vegetation is similar to that found on the lower levels of Margarita Island, and towards the eastern end becomes more luxuriant and varied. Our stay at the Laguna was on this occasion limited to a few hours, but, thanks to Sir Frederic Johnstone, I have had, on a previous occasion, the opportunity of exploring the surrounding country along with Dr. Bowdler Sharpe. My investigations at the eastern end have also been very limited, but from what I have seen I feel convinced that a more extended visit would amply repay the ornithologist. There can be little doubt that this strip of land and at least the Island of Margarita were formerly one. The rocks of both consist of Archaic schists.

I give a list of the birds which I have met with in this interesting stretch of land :—

- Ortalis ruficauda* Jardine. Quite common.
Eupsychortyx pallidus Richmond. A well-marked species.
Chamaepelia perpallida Hartert.
Rhynchops nigra, Linn. } Present in enormous quantities.
Phalacrocorax species ? }
Pelecanus fuscus Linn. Breeding in the lagoon during our visit.
Butorides virescens robinsoni Richmond.
Cathartes aura (Linn.).
Catharista atrata (Bartram).
Polyborus cheriwayi (Jacquinot).
Parabuteo unicinctus (Temm.).
Conurus æruginosus (Linn.).
Chrysotis ? *ochroptera* ? *rothschildi*. (See below.)
Agapornis.
Ceryle alcyon Linn.
Doleromyia pallida Richmond.
Melanerpes subelegans (Bonaparte).
Formicivora intermedia Cabanis.
Dendroplex longirostris Richmond.
Sublegatus arenarum (Salvin).
Myiarchus tyrannulus (Müller).
Coryphospingus pileatus (Max.).
Stelgidopteryx ruficollis uropygialis (Lawr.).

Tachycineta albiventris, Sharpe.
Mimus gilvus subspecies?
Polioptila plumbeiceps, Lawrence.
Pachysylvia griseipes (Richmond).
Cæreba luteola (Cabanis).
Volatinia jacarini splendens Richmond.
Euethia bicolor omissa (Jardine).
Cardinalis phæniceus, Gould.
Tanagra palmarum melanoptera.
Icterus icterus (Linn.).
Icterus xanthornus helioeides Clark.
Molothrus atronitens, Cab.

LOS HERMANOS ISLANDS.

On Jan. 9th, 1908, we steamed across the ten miles of sea which separates Blanquilla from the Los Hermanos Islets. A fresh trade-wind was blowing, and a strong current was running between them, so that we had some trouble in landing on Orquilla, one of the more northern of the seven islets.

The group is situated forty-five miles due north of the north-west point of Margarita Island, which is itself about twenty miles or more from the mainland of Venezuela. They together occupy a space of about eight miles in a N.N.W. and opposite direction, and consist of masses of a granite-like rock (diorite), which rise more or less abruptly from the sea.

Orquilla, the only islet that we had time to explore, is, so far as we could judge, about two miles or more long by a mile wide. It rises to a height of 650 feet, and is covered with a thick growth of cacti, agaves, and tall coarse grass, while here and there are patches of sea-grape and fairly tall mangrove-trees. Near the top, dense masses of tall, upright *Cerei* grow to a height far above a man's head. In the short time at our disposal (about five hours) at least two-thirds of the island was left unexplored, owing to the very great difficulty in making a way through the scrub, so that it is possible that there may be other land-birds there which we did not come across. At a height of 600 feet there is a long, saddle-backed ridge, nearly a mile long, which we had

to leave unexplored. The only other land-bird seen was a Peregrine Falcon. The whole island swarms with Iguanas.

SULA CYANOPS (Sundeval).

One adult male taken.

These birds were nesting, but were not present in anything like the numbers of *Sula sula* or *Sula piscator*. I have seen them in far greater abundance on Arenas and Arcas Cays in the Gulf of Mexico, where they seem to be more at home. On Orquilla they chose comparatively exposed and open spaces on the rocks. In no instance did they breed in trees or bushes. The nest, if such it may be called, is situated on the bare rock, and is not lined with either sticks or grass. In some cases I noticed a sort of ring of very finely divided pieces of rock formed round the shallow depression which does duty for the nest.

These birds seem to breed rather later than either of the two other Gannets present on the Los Hermanos rocks.

The colours of the soft parts, from notes taken on the spot, are as follows :—

Tarsi greenish drab.

Webs and feet dirty yellowish drab.

Gular sac of an Indian-ink colour.

Bill greenish yellow.

Iris yellow.

These colours do not agree with those given by Mr. Cory in his 'Birds of the West Indies.'

SULA SULA (Linn.).

One adult male taken.

Present in very great numbers, and nesting. The nests were invariably situated on the bare rocks, and lined with a few pieces of grass or twigs.

The colour of the soft parts of this Gannet were taken on the spot, and are as follows :—

Tarsi and upper surface of webs bright chrome-yellow.

Under surface of webs greenish yellow.

Gular sac bright chrome-yellow.

Bill yellow at base, shading off into bluish grey.

Iris pale grey. *Eyelids* edged with bright blue; a patch of dark bluish green immediately in front of eye.

These colours do not agree in any particular with those given by Mr. Cory in his 'Birds of the West Indies.'

SULA PISCATOR (Linn.).

This Gannet was present in greater numbers than either of the other two species. It appears to breed earlier, and, at the time of our visit, there were already young in all stages of down, a few being quite big birds. The nest is formed of twigs, grass, and sticks very roughly put together, and is ludicrously small in comparison with the size of the bird. It is invariably placed in either mangrove or sea-grape bushes. By far the greater number of nests were occupied by birds in the white-tailed stage of plumage, entirely white birds of the most adult stage being very scarce. One egg only is laid.

The colours of the soft parts have been recently described by Dr. Bowdler Sharpe and Mr. Nicoll.

Birds which I obtained on Little Cayman Island, whence examples have been distinguished by the name of *Sula coryi*, do not appear to differ in any respect, sufficient to justify distinction, from birds obtained in other parts of the Caribbean Sea.

I have found the Little Cayman Gannets breeding at exactly the same time as those on Los Hermanos.

The cause which has led these three species of Gannet, so similarly circumstanced, to constantly build their nests in dissimilar positions would be an interesting subject for speculation.

FREGATA AQUILA (Linn.).

These birds were present in numbers amounting to many hundreds. They were busy breeding, and the island was covered with nests which contained eggs and young in various stages of nakedness and down.

The nest is formed of sticks and twigs, with a comfortable lining of dry grass, similar to the long coarse grass which

grows among the boulders amidst which they were breeding. The nests on this island were raised some little way off the ground, and rested, as a rule, on the centre of a thick tussock of long grass or on some low spreading shrub. We found none until we had reached an altitude of about three or four hundred feet, and the birds chose ground of the roughest and rockiest description, so that they were partly hidden among boulders, long grass, and cactus. Only one egg appears to be laid. The young bird when hatched is naked. The parent birds were astonishingly tame and confiding.

The commonest form of plumage which we noticed was that in which the head, neck, nape, and back were all black, relieved by a beautiful greenish-purple sheen, the throat and thorax being white. Next came a form in which the head, neck, nape, and breast were entirely white; while infinitely the rarest variety was that in which the head and neck were black, but the throat exhibited the conspicuous and remarkable red gular pouch. The first stage consists apparently of both young males and females, the next of older females, and the last of old males. I saw all three varieties incubating.

So far as I have been able to observe, it is only the fully adult male that exhibits the extraordinary balloon-shaped pouch, which it can distend at will. I, however, noticed some birds, apparently not *fully*-adult males, with *orange* gular sacs, and some, apparently still younger males, with the white throat and breast, mottled and streaked with black, in a stage antecedent to the perfectly fully-adult male. These appeared to have no distensible gular sac, or at any rate it was not apparent. The fully-adult males were very shy, and I could not get near enough to take photographs of the few I found sitting on nests. As we reached the top of the island (650 ft.), some of these old males were soaring against the strong trade-wind just above our heads. The vivid red, almost translucent, and distended pouch waggled about in the breeze in a somewhat ludicrous way. It appears to have a constricted and elongated neck, which

allows it to "flop about" in an apparently purposeless manner.

The colours of the soft parts in young males and young females are as follows :—

Bill pale bluish grey, light lavender-blue at base.

Interramal bare space pale lavender-blue, darker here and there.

Iris sepia-brown; *circumorbital bare space* dark cobalt-blue.

Webs and feet pale flesh-coloured.

The two birds from which the notes of these colours were taken were a male and female respectively, with the entirely black head and nape. I took them home in a frozen state to Mr. Pycraft, and together we tried to distend the gular sac by artificial means, but after repeated efforts failed to do so.

PHAËTON ÆTHEREUS Linn.

We found numbers of these beautiful birds breeding in holes among the broken masses of rocks which were strewn everywhere on the steep slopes of the island, but not until we had reached an altitude of about 300 feet. No attempt at making any sort of nest is made. At the time of our visit the nesting-places contained both eggs and downy young. The breeding-habits do not appear to differ in any particular from those of *P. americanus*, except in regard to the time of year at which the birds commence. I have found the latter species breeding in the Bermudas in the middle of May.

CHAMÆPELIA PERPALLIDA.

Columbigallina passerina perpallida Hartert, Ibis, 1893, p. 304.

I noticed a fair number of these Ground-Doves. They were exceedingly tame and allowed us to approach within three or four yards of them. The specimens I secured are the palest I have seen.

MARGAROPS FUSCATUS (Vieillot).

Margarops fuscatus fuscatus Ridgway, Birds North & Middle Amer. pt. iv. p. 265.

Two males and one female.

The first specimen secured was shot at an altitude of about 400 ft., the other two on the central saddle-backed ridge (600 ft.). It was rather strange to come across these Thrushes on an island which is entirely waterless. They appeared to be well established there, however. Dr. Hartert has recorded them from the Island of Bonaire, near Curaçao.

My specimens agree in coloration of plumage with typical specimens in the British Museum, but the measurements are rather smaller. They are as follows:—

	Wing.	Exposed culmen.	Tarsus.
	mm.	mm.	mm.
♂	131	26	32
♂	132	25	32
♀	131	26	32

The average measurement of the tarsus of birds in the British Museum collection is 36·5 mm.; the average measurement (of males) given by Mr. Ridgway ('Birds of North and Middle America') is 37·5 mm.

EUETHIA BICOLOR JOHNSTONII.

Euethia johnstonei Lowe, Bull. B. O. C. vol. xix. p. 6 (1906); id. *Ibis*, 1907, p. 120.

A fair number of these dark little Finches were present on the island and I shot several specimens. They are in every way identical with those which I obtained on Blanquilla, where they are very numerous. It is remarkable that this bird, which lives amidst such very similar surroundings to the Curaçao bird (*E. bicolor sharpei*), should differ from it in such a marked manner. I had the opportunity of shooting and examining some examples of the latter a fortnight after visiting Blanquilla and Los Hermanos, and was surprised to find it such a light-coloured form. The chin, throat, and breast are of a dull slaty grey, while the Blanquilla bird is the darkest of the genus.

The *wings* of nine males of *E. b. johnstonei* average 53·6 mm., while the *tarsi* average 16·3 mm.

HOLOQUISCALUS INSULARIS Richmond.

Quiscalus insularis Richmond, Proc. U.S. Nat. Mus. xviii. p. 675 (1896).

Holoquiscalus insularis Ridgway, Proc. Wash. Ac. Sci. iii. p. 151 (1901).

Five males and three females.

We met with many examples of this insular form, which has thoroughly established itself on the island. Strangely enough, it is not found on Blanquilla, which is only ten miles away—at any rate, I have never seen a single specimen there during three visits.

The differences between this form and *Holoquiscalus lugubris* which inhabits the mainland are only slight; the males are rather larger, and the females differ in the much lighter brownish-grey colour of the throat, while the back and head are also lighter.

Mr. Richmond says that the colour and pattern of coloration in the female are very similar to those of the female of *Molothrus ater*, but are slightly darker.

The average measurements of my birds are as follows:—

	Wing.	Tail.	Exposed culmen.	Tarsus.
	mm.	mm.	mm.	mm.
Five males . .	118	95	27	31
Three females .	102	83	23	28

Two of my males are not fully adult. They are much browner above and below than adult birds, and some of the quill-feathers are almost pure hair-brown. All my specimens are in poor plumage, and the wings and tails are somewhat worn. These birds are apparently fond of a little animal diet, for I watched a female trying for a long time to break the egg of a Gannet which had just left its nest. It kept persistently hammering at the egg with its bill, and on being driven away quickly returned to the nest and commenced operations again. I saw them feeding on the flowers of the Agave, in the calyces of which they apparently find many insects attracted by the honey. In

Cuba I have also seen the candelabra-like flower-scapes of the Agave crowded with another Icterine bird, viz. *Icterus hypomelas*.

BLANQUILLA ISLAND.

On January 7th we arrived at Blanquilla Island, which Sir Frederic Johnstone had very kindly consented to touch at again to enable me to get a series of specimens of the Parrot found there, which I had been unable to do during our previous visit. In addition to securing seven of these birds, which are to be found in abundance on the island, I also obtained one or two examples of a Tyrant, *Tyrannus dominicensis* (Gmelin), which I did not meet with on our first visit to the island in 1906, and four more examples of the *Myiarchus* which I have referred in my paper on the birds of Blanquilla ('Ibis,' 1907, p. 118) to *Myiarchus tyrannulus*. I think there can be no doubt, however, that these birds should be called *Myiarchus brevipennis* Hartert. I have compared my examples with a series kindly sent to me by Dr. Hartert from the Tring Museum, and mine appear to be identical with his.

CHRYSOTIS ROTHSCHILDI.

Chrysotis rothschildi Hartert, Bull. B. O. C. iii. p. xii; id. Ibis, 1893, pp. 123, 328; Lowe, Ibis, 1907, p. 117.

Six males, two females, and one immature specimen unsexed.

I have compared my series of Parrots from Blanquilla with a series from Bonaire, which Dr. Hartert kindly lent me for comparison from the Tring Museum. It included the two types of *C. rothschildi*. As noted above, I have referred my Blanquilla birds to this form, but the series is rather puzzling.

Some of my specimens agree with *C. rothschildi* in that the green coloration extends to the lower mandible, and is seen as a bar on either side of the chin. The distribution of the yellow colour on the vertex and sides of the head also agrees with Dr. Hartert's description of this bird; but, on the other hand, several of my examples exhibit

the rich golden or orange-yellow on the chin and throat which is present in *C. ochroptera*, whereas in *C. rothschildi* Dr. Hartert states that no yellow feathers are to be seen on the throat.

As regards, too, the red coloration of the cubital edge, which Dr. Hartert makes a point of distinction between the two species, in some of my birds it is marked, in others not at all. As regards the yellowish-green coloration of the outer bend of the wing, my specimens agree with his description, and in all of them the feathers of the abdomen and back shew black edges, while in most the abdomen is tinged with blue. One has some bluish feathers mixed with the yellow on the forehead, a character which Dr. Hartert notes as also occurring in one of his examples from Bonaire. I agree with him in thinking this a sign of immaturity.

To add to my difficulty I have a specimen which I shot on the Cariaco Peninsula which more closely corresponds with Dr. Hartert's description of *C. rothschildi* than any of my Blanquilla birds, and two specimens from Margarita Island also have green on the cheeks and sides of the face, whereas others I brought from this island undoubtedly correspond with examples of *C. ochroptera*.

It would be strange if out of all the nine birds I shot on Blanquilla there was not one in really fully adult plumage, and if the series actually illustrates different phases of the plumages of *C. ochroptera*.

SWAN ISLANDS.

On Jan. 19th, 1908, after a passage of over a thousand miles from the Island of Curaçao, we came to anchor in a charming little bay at the western end of these two small twin islands. They are situated at the western end of the Caribbean Sea, and lie ninety-eight miles nearly due N.E. from Patook Point, which is the nearest part of the mainland of Honduras. Although in some respects disappointing from an ornithological point of view, yet no island, however small, which is so isolated, can possibly be altogether uninteresting. The

two islands, which are separated by only a shallow channel two or three hundred yards in width, together stretch for four or more miles in an easterly and westerly direction. The easternmost has always remained uninhabited. The western island is now occupied by the owner and his family. Both islands, except where clearings have been made in the last fifty years, are densely wooded, and until about the year 1840 they had remained completely uninhabited; but in the old buccaneering days they seem to have occasionally been visited by the sea-pirates, who used them as a rendezvous for cutting off Spanish vessels returning to Europe. The islands apparently owe their name to the famous Captain Swan. So far as resident and really indigenous birds are concerned, the islands are, as I have indicated, disappointing; but, considered from a migratory point of view, they would no doubt form an excellent point from which to observe birds in the spring and autumn migrations to and from Central America. I was informed by the owner that at these seasons they were visited by a great influx of birds.

Similarly to what obtains in the Caymans (180 miles distant), Humming-birds are not represented, and, strangely enough, I did not come across a single representative of the Tyrant family, nor any examples of the genus *Cæreba*.

COLUMBA LEUCOCEPHALA Linn.

This is a common and well-established species. It breeds on both islands, and is not nearly so shy as such Pigeons usually are. On the eastern island it is, in fact, almost confiding, and I shot six or seven specimens with a small collecting-gun in less than half an hour.

Colours of soft parts in the fresh state :—

Iris white or creamy white.

Circumorbital bare space white on a pinkish background, which here and there shews through the white.

Base of mandible and maxilla dull crimson-lake, dull crimson, or dark brownish purple according to age.

Tip of bill pale greenish white, horny white, or pearly green.

Feet and tarsi bright crimson, *claws* brown.

COLUMBA CORENSIS Gmel.

Although I did not secure any examples, I was told that a second Pigeon was found on the island, and from the description given me I concluded it to be this form.

SULA SULA (Linn.).

Nesting in quantities on the easternmost of the two islands.

Young birds just able to fly are *entirely* brown; *webs and feet* dirty yellow. *Bill* slaty grey, not yellow at base. *Irides* pearly grey.

Some of the nests on this island were made with a foundation of twigs and were lined with sea-grape leaves, while others were merely depressions in soft beds of a *Mesembryanthemum*-like plant which covered the rocks near the shore. The island swarmed with iguanas, which were crawling about among the young Gannets.

SULA PISCATOR (Linn.).

Many of these birds were nesting on the eastern island at the time of our visit.

FREGATA AQUILA (Linn.).

A large colony of these birds was breeding on the easternmost of the two islands, and, contrary to what obtains on the Los Hermanos group, the nests were placed on the tops of fairly tall trees about twenty-five to thirty feet high, in some cases as many as eight or nine being found in one tree. The alarm-note (if such it is) of this bird while on its nest is peculiar, being a series of rapidly repeated half-guttural half-whistling sounds, very difficult to describe. While uttering these sounds the mandibles are alternately and rapidly opposed and separated, the interramal space being slightly distended. When alighting on its nest the Frigate-bird is extremely clumsy, and, if flurried, will often slip

through the branches and fall to the ground, where it is helpless and more often than not is unable to regain its native element through the thick overspreading branches. We found the desiccated bodies of several birds hanging by the neck from a forked branch, having evidently slipped down from their nests and been caught up by the fork as they fell. We had been previously solemnly assured by a West-Indian negro that Frigate-birds sometimes commit suicide. The owner of the island told me that these birds eat an enormous quantity of young turtles that have just taken to the sea, when they are unable to dive. I am not aware whether or no Frigate-birds are known to take draughts of water, but I watched for some time a band of about twenty hovering over a large pond of fresh water on the western island, and every now and then dipping down to it one after the other in the apparent endeavour to scoop some of it into their bills. The bill at each stoop was dipped lightly into the water, and I could discover nothing either on the surface or in the water on which they could be feeding. Dr. Adams, the son of the owner, assures me he has often seen Frigate-birds doing this, and he is convinced that they are then drinking. It is a mistake to suppose that they live entirely on animal-matter floating on the surface of the water, or on prey which they make Gannets and other birds disgorge, for I have myself seen one chase and capture a fine flying-fish which was skimming over the waves. If by any mischance a bird happens to find itself in the water, it is very seldom able to rise unless there is a fresh breeze, and it sooner or later perishes.

FALCO COLUMBARIUS Linn.

An American Merlin was seen and shot. The owner told me that he had been interested to note many Hawks of different species apparently following in the track of birds migrating during the autumn and spring. I have shot the present species in both the Grand and Little Cayman Islands.

CROTOPHAGA ANI Linn.

I met with flocks of this Cuckoo in nearly every open space on the island. The only specimen I shot, a male, does not differ from those obtained elsewhere. In its stomach I found four lizards and the remains of several large beetles. This bird has probably established itself here recently, for it prefers open spaces, and sixty years ago the island must have been uniformly and densely wooded.

MIMOCICHLA RUBRIPES (Temm.).

Mimocichla rubripes eremita Ridgw. Proc. U.S. Nat. Mus. x. p. 575 (1887).

This Thrush has been separated from the typical *M. rubripes*, which inhabits the western end of Cuba, by Mr. Ridgway on the ground that it "averages larger, has shorter toes," and that "the white of the chin and malar region is usually more extended."

During a stay of nearly three weeks various collecting-parties from the yacht hunted high and low and searched every corner of the island for this species, but without seeing a sign of it. It is strange if it has died out, for the owner of the island takes great care to preserve the birds. He tells me that occasionally he sees members of this *genus* in October; but that is a month of gales, and no doubt these birds have been blown over from Cuba, the Grand Cayman Island, or elsewhere.

The measurements given by Mr. Ridgway ('Birds North and Middle America,' part iv. p. 85) would not, in my opinion, justify the creation of a new subspecies; and the variation in extent of the white on the chin and malar region, which is the only other distinction given, does not seem to be constant according to Mr. Ridgway's description.

GALEOSCOPTES CAROLINENSIS (Linn.).

Several specimens taken.

This bird was extremely abundant on the island, and I

was assured by the owner that it breeds there. It does not appear to differ from the form found elsewhere. Considering the distant localities in which this bird is found breeding, it appears to be a remarkably constant species.

I have found nests and eggs in Bermuda. The eggs are of a beautiful Egyptian blue colour.

VIREO NOVEBORACENSIS (Gmelin).

I shot a single example of this bird, which was the only one I saw. The throat and upper breast of this specimen are of a deep buff.

Colours of soft parts :—

Mandibles silvery white.

Maxilla dark horn-coloured.

Tarsi bluish grey.

Claws whitish.

I am rather surprised that Mr. Ridgway does not consider *Vireo noveboracensis bermudianus* Bangs a very satisfactory subspecies, for I have a series of nine examples that I shot in Bermuda, which, compared with birds from Florida shot at the same season of the year, are, strikingly and constantly, very much duller in coloration, and have not the same rich yellow of the under parts.

MNIOTILTA VARIA (Linn.).

I contented myself with procuring two specimens of this Black-and-White Warbler, a male and a female. It was fairly abundant on the trees at the edges of the clearings. It is met with in the winter throughout all the West-Indian islands, and is far more like our Tree-creeper in habits than a Warbler.

HELMITHERUS VERMIVORUS (Gmelin).

One adult male.

This was the only example of this Warbler I saw. It is a winter visitor from the Eastern United States.

DENDRÆCA CORONATA (Linn.).

I noticed several bands of these birds feeding in the recent clearings, and shot one or two specimens. I have also seen many of them on the Grand Cayman Island. This species is a winter visitor from North America.

DENDRÆCA DOMINICA (Linn.).

I shot a male example of this Yellow-throated Warbler. It was the only example that I saw. It is a winter resident or straggler.

DENDRÆCA VITELLINA Cory.

Dendroica vitellina Cory, Auk, iii. 1886, pp. 497, 501.

I obtained a series of thirteen of these little Warblers, which are peculiar to these islands and the Grand Cayman. It consists of adult males and females, and also of individuals in various stages of immature plumage. The bird is very abundant on both the Swan Islands and is extremely tame.

It differs from *D. discolor* in being larger and in lacking the chestnut spots on the back. The broad black streaks along the sides of the breast and flanks which are so conspicuous in *D. discolor* are either entirely absent or are only faintly indicated by dusky streaks. It is incorrect, as Mr. Ridgway states ('Birds of North and Middle America,' part ii. p. 610), to say that they are *always* absent, for in some specimens which I have obtained, both on these islands and the Grand Cayman, the faint dusky lines are easily observed.

I have compared examples from the Swan Islands with my birds obtained on the Grand Cayman and also with those which Mr. Nicoll obtained on the same island, and they appear to me to be identical. They also differ from specimens which I obtained on the Little Cayman (*D. crawfordi* Nicoll) in the points which Mr. Nicoll has already indicated.

D. vitellina would seem to be a well-marked and very constant species. According to Mr. Ridgway ('Birds of North and Middle America,' vol. ii. p. 610) the under parts

of the young of this species in first plumage are entirely white, washed with yellow, so that eight immature birds in my series from the Swan Islands would appear to be in an intermediate stage between the young in first plumage and the adult.

My two most immature birds are ashy grey above, with a slight tinge of greenish yellow on the lower back and upper tail-coverts; lores and superciliary stripe white; sides of face dusky, fringed with yellow on the cheeks; throat white; fore-neck and entire under surface of body pale yellow. The next three are similar to the foregoing, but have the lores and superciliary stripe tinged with yellow, as also the chin and throat, leaving a more or less white band across the lower throat, which separates the yellow on the chin and upper throat from that of the breast and remaining portions of the under surface. The four remaining examples exhibit an increasing amount of yellow on the lores, superciliary stripe, and entire under surface of the body. No trace of the white band across the throat remains, and they approach more nearly to the bright yellow of the adult bird.

DENDRÆCA PALMARUM (Gmelin).

I shot one or two specimens of this Palm-Warbler for identification. It was not so well represented on the islands as *D. coronata*, but is very common on the Cayman Islands.

GEOTHYLPIS TRICHAS BRACHYDACTYLA.

Geothlypis trichas brachidactyla (Swainson).

I noticed a fair number of these pretty little "Yellow-throats." Having unfortunately shot only one specimen I am not sure that I am justified in referring it to the northern form of *G. trichas*. My specimen, however, seems to be identical with one I have in my collection from Eastern Mexico. The wing of this bird measures 57 mm.

I have nine specimens which I collected on the north coast of Cuba in February 1907, the wings of which average 52.5 mm., and I consider that these birds should be referred to typical *G. trichas trichas*; but Mr. Ridgway ('Birds

of North and Middle America,' part ii. p. 655) says, in discussing the range of this form, "The only extra-limital specimens that I have seen which seem without doubt referable to this form are from certain islands of the Bahama group." It may be, however, that they should be referred to Mr. Chapman's *G. trichas ignota*, with which I have not been able to compare them.

SETOPHAGA RUTICILLA (Linn.).

I observed a few examples of this "American Redstart" and shot a female specimen.

Of birds seen and identified, but of which I did not think it necessary to take specimens, the following is a list :—

- Arenaria interpres* (Linn.).
- Egialitis wilsonia* (Ord).
- Ardea cœrulea* Linn.
- Botaurus lentiginosus* (Mont.).
- Pandion haliaëtus carolinensis* (Gmel.).
- Falco peregrinus anatum* (Bonap.).
- Ceryle alcyon* (Linn.).

Besides these I was informed that, among many others that I was unable to identify with certainty from the descriptions given, the following birds constantly visited the islands :—

- Aristonetta valisneria* (Wils.). 41 were once shot in one week.
- Nettion carolinensis* Gmel.
- Querquedula discors* (Linn.).
- Mareca americana* (Gm.).
- Gallinula galeata* (Licht.). Common in Grand Cayman Island.
- Passerculus sandwichensis* (Wils.).
- Tyrannus dominicensis* (Gmel.).

I have unfortunately been unable to consult Mr. Ridgway's notes on the birds of this island (Proc. U.S. Nat. Mus. x. 1888, p. 576), and so I am unaware of what birds were met with by Mr. Townsend when he visited it in February 1887.

GRAND CAYMAN ISLAND.

Leaving the Swan Islands on the evening of Feb. 10th, we

arrived in the afternoon of the next day at the Grand Cayman Island, and anchored off Georgetown, the capital. Our stay here was limited to twenty-four hours, but in January 1904 Sir Frederic Johnstone had previously visited the Caymans in the yacht 'Emerald,' and thanks to this I then had the opportunity, in company with Dr. Bowdler Sharpe, of making a more extended acquaintance with the many interesting insular forms with which these islands abound. As Mr. Nicoll ('Ibis,' 1904, pp. 577-589) has lately given a description of the birds he met with there, I simply add some notes on some of the more interesting and peculiar forms. Neither Dr. Bowdler Sharpe, Mr. Nicoll, nor myself succeeded in finding any examples of *Mimocichla ravida* Cory, a Thrush peculiar to the Grand Cayman; but I was informed by a squatter who lives on the northern side of the island, which is covered with tall trees and bush, that this bird breeds there and that he knows it well. Neither did we see anything of another bird which Mr. Cory has separated from *Icterus leucopteryx* of Jamaica and to which he has given the name of *Icterus bairdi*. I covered a large amount of country where I should naturally have expected to meet with this bird, and I have read Mr. Ridgway's description of it in his 'Birds of North and Middle America' (Mr. Ridgway has not seen an example), but I must confess to having some little doubt as to the status of the form. I make this remark because I am of opinion that, in these West Indian islands which are so often visited by hurricanes, when a bird is met with which is evidently quite rare and apparently struggling to exist we ought to feel quite sure that it is not merely a straggler from neighbouring islands or has been introduced, as is the case with *Icterus icterus* of St. Thomas, which I have found there but which does not differ from typical examples.

Of the handsome Grand Cayman Parrot (*Chrysotis caymanensis* Cory), I have never been able to shoot any examples, but I have seen it in the wild state and also in cages. It is quite common on the northern side of the island and is a well-marked species.

ZENAIDA SPADICEA Cory.

Zenaida spadicea Cory, Auk, iii. p. 498.

I have five specimens of this pretty Dove from the Little Cayman, where it is common. Unfortunately I have never been able to secure any specimens from the Grand Cayman. Mr. Cory has, on the strength of one specimen, provisionally proposed the name of *Z. richardsoni* for the Little Cayman form; but, from the description he gives, his specimen is one not in fully adult plumage, and I prefer to think that the birds from the two islands are identical. This is a good species.

CHAMÆPELIA JAMAICENSIS Maynard.

Columbigallina passerina insularis Ridgw. Proc. U.S. Nat. Mus. p. 574 (1887).

Columbigallina jamaicensis Maynard, App. Birds West Indies, 1899, p. 34.

I shot five or six of these Ground-Doves, which still appear to me to be identical with the birds found in Jamaica. I have previously ('Ibis,' 1908, p. 107) given my reasons for preferring to drop Linnæus's specific name of *passerina* for this Dove and for calling it *C. jamaicensis* Maynard. During my last visit to the Grand Cayman I shot a Ground-Dove with the base of the bill crimson as in *C. aflavida* of Cuba, which was evidently a straggler from this island. I have over a hundred specimens of the genus from various islands in the Caribbean Sea in my collection, and this was the only occasion in which I have found the colour of the bill to vary from that normally found in the locality.

CENTURUS CAYMANENSIS Cory.

Centurus caymanensis Cory, Auk, iii. pp. 499, 502 (1886).

I met with this Woodpecker in abundance, but only shot two examples. It differs from two specimens that I shot in Cuba in lacking the black superciliary mark.

COLAPTES GUNDLACHI Cory.

Colaptes gundlachi Cory, Auk, iii. pp. 498, 502 (1886).

I obtained six specimens of this very handsome Wood-

pecker, which agree with Mr. Cory's original description. I have never met with its Cuban ally.

ELÆNIA MARTINICA RIISII.

Elainea riisii Selater, Proc. Zool. Soc. Lond. 1860, p. 314.

Elainea martinica Nicoll, Ibis, 1904, p. 582.

Elænia martinica caymanensis Berlepsch, Proc. Fourth Internat. Orn. Congr. 1907, p. 394.

Count Berlepsch has lately separated this Tyrant on the ground that it "differs from true *E. martinica* of the Windward Islands in being much paler and more uniform greyish-brown (less mottled) on the upper parts." He says also, "in colour they agree with *E. riisii* from St. Thomas and Curaçao, but have the large measurements of *E. martinica*."

I have only three specimens from the Grand Cayman, but I have carefully examined a fine series collected by Dr. Bowdler Sharpe and Mr. Nicoll, while I have compared them with examples from St. Thomas in the British Museum and my own collection, and they appear so similar that with all regard to such an authority as Count Berlepsch it appears to me that it would have been better to have referred this form to *E. martinica riisii*, which I venture to do. My examples from St. Thomas certainly give me the impression of being *slightly* smaller than examples from the Grand Cayman, but when measurements are taken the differences are very slight indeed.

I notice that Mr. Ridgway ('Birds of North and Middle America,' part iv. pp. 428, 429) has included examples of *E. m. riisii* with true *E. martinica*; but the former bird is constantly and uniformly very much paler, and is also noticeably smaller, than examples from Dominica, Martinique, St. Lucia, and St. Vincent.

From a geological point of view this form, *E. m. riisii*, ought to be found in Porto Rico, Culebra, St. Thomas, St. John, and the whole of the Virgin Islands, which are all situated on the same submarine elevation.

With the form or forms which are found in the happy

hunting-ground for new subspecies which lies between the islands of Anguilla and Montserrat, I have no personal field acquaintance; but after cruising among these islands and observing how very close to one another and how small they are, and after studying charts of the surrounding submarine banks, I can only wonder if the creation of numberless subspecies is not a scientific mistake.

TOLMARCHUS CAUDIFASCIATUS CAYMANENSIS.

Pitangus caudifasciatus Cory, Auk, iii. p. 502 (1886).

Pitangus caymanensis Nicoll, Ibis, 1904, p. 582.

Tolmarchus caymanensis Ridgw. Birds North & Middle Amer. part iv. p. 681.

I possess only one specimen of this species from the Grand Cayman. It agrees with Mr. Nicoll's description of this insular form.

MYIARCHUS SAGRÆ Gundlach.

Myiarchus denigratus Cory, Auk, iii. pp. 500, 502 (1886).

Mr. Cory says: "This is a very dark species, easily distinguished from any other West Indian form."

I have compared my specimens, which I shot on the Grand Cayman, with six examples of *M. sagræ* which I obtained in Cuba, and I am in entire agreement with Mr. Ridgway in not being able to distinguish the slightest difference between the two forms. My series from both islands were in very good plumage.

MIMUS POLYGLOTTOS ORPHEUS.

[*Turdus*] *orpheus* Linn. Syst. Nat. ed. x. i. 1758, 169.

Two males which I shot are referable to this subspecies. I notice that Mr. Ridgway ('Birds of North and Middle America,' part. iv. p. 232) does not admit the subspecific rank of *Mimus p. portoricensis* Bryant, from Porto Rico, but two birds in my collection from that island would seem to justify it. I found some low bush country near Guanica, in Porto Rico, simply swarming with this species, but unfortunately only shot two examples.

VIREOSYLVA CAYMANENSIS Cory.

Vireo caymanensis Cory, Auk, iv. p. 7 (1887).

Three males and one female.

When compared with *V. magister* these birds differ in being paler green above and yellowish white instead of ochreous white below.

VIREO CRASSIROSTRIS ALLENI.

Vireo alleni Cory, Auk, iii. pp. 500, 501 (1886).

Vireo crassirostris alleni Cory, Cat. W.I. Birds, pp. 116, 153 (1892).

One male and one female.

The nearest ally of this large-billed Vireo is *V. crassirostris* of the Western Bahamas, from which it hardly differs.

The song of this bird is very similar to that of *V. novæboracensis*; so similar in fact that I shot these two individuals under the impression that they belonged to that species, and did not discover my mistake until getting back to the yacht. Otherwise I might have obtained several other specimens.

DENDRECA PETECHIA (AURICAPILLA?).

Dendroica petechia auricapilla Ridgw. Birds North & Mid. Amer. part ii. p. 517.

Dendroica aurocapilla Cory, Auk, vi. p. 31 (1889).

Six adult males and one adult female.

The Grand Cayman bird has been separated from *D. petechia* of Jamaica on the ground that it has "decidedly shorter wing and larger bill and feet."

The measurements of four males which I shot in January 1904 are as follows:—

	Wing.	Exposed culmen.	Tarsus.
	mm.	mm.	mm.
(1)	63	9·5	19·5
(2)	64·5	10·5	20
(3)	64	10·5	20
(4)	62·5	10	19·5

According to the measurements given in Mr. Ridgway's 'Birds of North and Middle America,' the wings of male

specimens of *D. petechia* from Jamaica average 65 mm., the exposed culmen 10·6, the tarsus 20·5.

DENDROECA VITELLINA Cory.

Dendroica vitellina Cory, Auk, iii. pp. 497, 501 (1886).

One male and two adults unsexed.

I have previously discussed this well-marked form in describing the birds of Swan Island.

CÆREBA SHARPEI (Cory).

Certhiola sharpei Cory, Auk, iii. p. 497 (1886).

Certhiola sharpei Nicoll, Ibis, 1904, p. 580.

Seven adults and one immature specimen.

An exceedingly common bird and met with nearly everywhere, but especially in the outskirts of Georgetown, where it is attracted by the flowers. Its call-note reminded me somewhat of a Gold-crested Wren, but it is louder. These birds seem busy all the day through, creeping about among the branches and searching continually for insects, which they seem to find as much among the leaves and their axils as in the interior of honey-laden flowers or pollen-laden inflorescences.

The wings of my seven adult birds average 60·4 mm., while the exposed culmens of males only average 13·7 mm., which is a smaller measurement than that given by Mr. Ridgway ('Birds of North and Middle America'), who states that the bill in *C. sharpei* is larger than in *C. caboti* from the Island of Cozumel, Yucatan. The plumage in nearly all my specimens is a good deal worn, so that the difference in wing and tail measurements between the two species must be very trifling.

Two specimens which I shot on Little Cayman Island agree with those from the Grand Cayman.

MELOPYRRHA TAYLORI Hartert.

Melopyrrha nigra Cory, Auk, iii. p. 501 (1886).

Melopyrrha taylori Hartert, Nov. Zool. iii. p. 257 (1896).

I have two males and one female of this insular form. One of the males is immature. They differ from the Cuban form *M. nigra* in the points indicated by Dr. Hartert.

I found this bird shy and not at all easy to procure. It frequents thick bush country. I found the Cuban bird fairly common at the eastern end of Cuba on the north coast, where it seemed to be more gregarious than in the Grand Cayman.

SPINDALIS SALVINI Cory.

Spindalis salvini Cory, Auk, iii. p. 499 (1886).

I obtained four males of this fine species, which, owing to its skulking habits, is difficult to find.

Mr. Cory has compared it with *S. pretrei*, but it is a much larger bird than that species. Mr. Ridgway, who has not seen any examples of this Cayman bird, very rightly says that, "judging from the description, it seems to be more like *S. benedicti* than any other." I have compared my specimens with a series of the latter species in the British Museum collection and with eight examples of *S. pretrei* in my own, and I find that the chestnut coloration of the breast in *S. salvini* is more defined than in *S. benedicti*, the lower margin tending to be well differentiated from the clearer yellow of the lower chest, whereas in *S. pretrei* the colours blend imperceptibly and are lighter. The median throat-stripe is lighter in *S. salvini* as compared with *S. benedicti* and of a more yellowish tint, not "more orange" as suggested by Mr. Ridgway, and the rump is paler—brownish orange as compared with chestnut.

S. salvini is, in fact, generally less rich in coloration in every way than *S. benedicti*, but is far nearer to it than *S. pretrei*. The back in *S. salvini* is yellowish olive and is distinctly lighter than in *S. pretrei*.

I append wing-measurements of four specimens of each species:—

<i>S. salvini.</i>	<i>S. benedicti.</i>	<i>S. pretrei.</i>
mm.	mm.	mm.
88	80	72
88	81	69
85	79	74
85	82	73

The female has never been described.

HOLOQUISCALUS CAYMANENSIS (Cory).

Quiscalus caymanensis Cory, Auk, iii. pp. 499-502; Ridgw. Proc. U.S. Nat. Mus. 1887, p. 574.

Holoquiscalus caymanensis Ridgw. Proc. Wash. Ac. Sci. iii. p. 151 (1901).

Three males and two females.

This is a smaller bird than *H. gundlachi*, which is found in Cuba, and the contour-feathers in the *male* exhibit a bluish or violet-blue gloss as compared with a more purely violet gloss in Cuban birds. The quill-feathers have a beautiful bluish purple sheen, while the wing-coverts are shiny bluish green.

Female (previously undescribed). Similar to the male, but distinctly smaller and duller and lacking the rich bluish purple gloss; the black of the upper parts has a greenish hue, while the lower parts have a dull brownish tint, with hardly any gloss.

Female examples of this genus which hail from the Greater Antillean Islands do not exhibit the brown coloration which obtains in those from the Lesser Antilles and further south.

I append measurements of four males and two females.

	Wing.	Tail.	Exposed culmen.	Tarsus.
	mm.	mm.	mm.	mm.
Ad. ♂ . . .	133	115	29	32
Ad. ♂ . . .	133	115	29	32
Ad. ♂ . . .	133	114	32	35
Ad. ♂ . . .	136	113	32	35
Ad. ♀ . . .	119	100	25	29
Ad. ♀ . . .	114	101	25	29

XIV.—*Remarks on the Practice of attaching "Authorities" to the Scientific Names of Animals.* By P. L. SCLATER, D.Sc., F.R.S.

LINNÆUS, as we all know, was the founder of the Binomial System of nomenclature for animals and plants. Before his time authors had invented "Genera," but had generally